Public Safety Wireless Network

PSWN

Achieving Interoperability through Cooperation and Coordination

January 19, 1999

By Hand Delivery

Ms. Magalie R. Salas, Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: *In the Matter of The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010* (Third Notice of Proposed Rulemaking), WT Docket No. 96-86, FCC 98-191 (rel. September 29, 1998).

Dear Ms. Salas:

Enclosed for filing in the above-referenced proceeding is an original and (4) copies of the Comments of the Public Safety Wireless Network (PSWN) program regarding the implementation of public safety communications as mandated by the Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997) (codified at 47 U.S.C. § 337), and an accompanying Certificate of Service.

An additional copy of comments is enclosed to be stamped "received" and returned.

Thank you very much for your attention to this matter.

Sincerely,

James E. Downes

James E. Downes

Co-Program Manager and Chairman, Spectrum Integrated Program Team
Public Safety Wireless Network (PSWN) Program

Enclosure

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
The Development of Operational,	)	
Technical and Spectrum Requirements	)	
For Meeting Federal, State and Local	)	WT Docket No. 96-86
Public Safety Agency Communication	)	
Requirements Through the Year 2010	)	

To: The Commission

COMMENTS IN RESPONSE TO THE

THIRD NOTICE OF PROPOSED RULEMAKING

Filed by: The Public Safety Wireless Network Program

Date: January 19, 1999

Before the
Federal Communications Commission
Washington, D.C. 20554

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PUBLIC SAFETY WIRELESS NETWORK PROGRAM'S

COMMENTS IN RESPONSE TO THE THIRD NOTICE OF PROPOSED RULEMAKING

1. The Public Safety Wireless Network (PSWN) program respectfully submits the following comments in response to the Commission's Third Notice of Proposed Rulemaking *In the Matter of The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010* (Third Notice).[1]

2. In its Third Notice, the Commission directly addresses a number of issues, such as interoperability spectrum and regional/statewide systems development, that are of great interest to the PSWN program. The program is investigating these and other public safety wireless communications issues.[2] Through these comments and subsequent contributions to these proceedings, the program hopes to bring the benefits of its findings to the Commission as it deliberates regarding the matters raised in the Third Notice.

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[1] *See In the Matter of The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010*, WTB Docket No. 96-86, FCC 98-191 (rel. September 29, 1998).

[2] *See, e.g.*, the *Public Safety Wireless Network Program and Federal Law Enforcement Wireless Users Group Status Reports* for the period July 1997 through June 1998 (attached) for program activity synopses.

Background

3. The PSWN program is a federal initiative operating on behalf of all local, state, and federal public safety agencies. The Department of Justice and the Department of the Treasury are jointly leading the PSWN program's efforts to plan and foster interoperability among public safety wireless networks. The PSWN program is a 10-year National Partnership for Reinventing Government (NPRG) initiative.[3] The NPRG, previously known as the National Performance Review, is an effort to reengineer how government provides services to citizens through more effective use of information technology and through more concerted partnership efforts among government at all levels.

4. Consistent with the NPRG, and in concert with the public safety community, the PSWN program hopes to achieve a shared vision of interoperability—seamless, coordinated, and integrated public safety communications for the safe and efficient protection of life and property.[4] The PSWN program is developing partnerships and working closely with the public safety community throughout the first five-year phase of the program to develop a comprehensive implementation plan for interoperability among wireless networks.[5] The program is in its third year and will soon approach the halfway mark of its first phase. During the second five-year phase, the program will assist the public safety community with its implementation of interoperability in accordance with the national plan.[6]

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[3] *See* the Public Safety Wireless Network NPRG booklet (attached), which contains a general overview of NPRG initiatives, as described by the Vice President; copies of NPRG action items IT04 (for establishing a national law enforcement/public safety network) and A06 (for establishing the intergovernmental wireless public safety network); and a one-page summary of the PSWN program vision and mission.

[4] *See* the *PSWN Program Strategic Plan*, April 1998 (attached) at page 2.

[5] The information obtained and developed by the PSWN program through its activities is openly available via the program's web page at www.pswn.gov.

[6] *See Id.* at pages 5, 9, and 10 for information regarding the PSWN program phases (e.g., their definitions, relative timing, and types of activities within each phase).

5. Spectrum is a priority area of activity for the PSWN program. Spectrum issues were identified by the Public Safety Wireless Advisory Committee (PSWAC) as among the most critical for addressing shortfalls in public safety radio communications.[7] The NPRG in *Access America* A06[8] identified providing adequate radio frequency spectrum for public safety agencies as one of five critical issues for implementing and improving interoperability. Drawing from the PSWAC's findings and from direct input provided by the public safety and spectrum management communities, the PSWN program has identified six key spectrum issues that require resolution to address the spectrum concerns raised in A06.

6. In brief these issues[9] are: insufficient aggregate amount of spectrum, excessive number and undetermined appropriateness of frequency bands, insufficient interoperability spectrum, lack of affordable multi-band technology, complicated spectrum management processes, and lack of a migration strategy. To resolve these issues, the following improvements need to be achieved:

- The aggregate amount of spectrum allocated for public safety use should be increased to support current and future communications needs.
- Public safety spectrum should be located across a minimum number of frequency bands and these bands should be appropriate for supporting public safety requirements.
- Each public safety frequency band should have spectrum designated specifically to support interoperability requirements.

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[7] *See, e.g.*, the *PSWAC Final Report, Volume 1*, at pages 21-23, and the *PSWAC Final Report, Volume 2*, at pages 601-707 (the Spectrum Requirements Subcommittee Final Report).

[8] *See* the PSWN NPRG booklet at page 9.

[9] *See* the PSWN program *Spectrum Analysis Program Plan Update*, June 1998 (attached) at pages 3-4 for a more complete discussion of these issues and required improvements.

- Affordable technologies to support multi-band communications should be more readily available to the public safety community.
- Spectrum management processes should be better understood and should evolve to encourage interoperability and the efficient use of spectrum.
- A strategy to smartly migrate the public safety community to newly allocated public safety bands should be developed.

7. In an effort to help resolve these issues and realize these improvements, the PSWN program has undertaken several spectrum-related activities to raise awareness, improve understanding of processes and policy, and analyze focused issues in more specific detail as appropriate. Three items that exemplify these efforts are:

- The *Public Safety and Radio Spectrum Guide* (attached). This guide explains public safety spectrum issues in clear terms, highlights unresolved PSWAC recommendations (e.g., need for an additional 73.5 MHz of spectrum), and raises awareness of the lack of date certain for transition of the 24 MHz in the 700 MHz band to public safety. The guide, endorsed by the Attorney General and the National League of Cities, was distributed to Members of Congress and local government officials.
- The *State and Local Spectrum Management Process Report* (attached). This report is a how-to guide developed to help state and local entities with public safety missions obtain frequencies. It explains the frequency assignment, frequency administration, and spectrum allocation processes.
- The *800 MHz Study Report* (attached). This report assesses the relative merits of 800 MHz as an operating frequency band for public safety wireless communications, and

the extent to which 800 MHz operations have affected interoperability among systems at all levels of government. The report includes a detailed analysis of the planning and management processes for 800 MHz systems as well as a collection of 800 MHz system user perspectives.

8. The PSWN program understands the importance of the Commission's proceedings and deliberations to resolving open issues and achieving desired improvements related to public safety spectrum. The program commends the Commission for its efforts in this regard during the past two years, particularly with respect to its deliberations on matters raised through WT Docket No. 96-86. Based on the maturity of its information baseline, the program is now in a position to make contributions to the Commission's proceedings regarding public safety spectrum matters. Therefore, the PSWN program is adding direct participation in this and other related dockets to its suite of spectrum activities.

9. In light of these considerations, the PSWN program is pleased to make comments to the Third Notice in the following areas: use and licensing of reserve spectrum in the 700 MHz band, administration of interoperability spectrum in the 700 MHz band, interoperability below 512 MHz, Global Navigation Satellite System, and the Year 2000 problem.

Use and Licensing of Reserve Spectrum

A. Comments Regarding Use of the Reserve Spectrum

10. The Commission invites comments regarding alternative uses of the 8.8 MHz of reserve spectrum that would promote new and innovative ways to better serve the public safety

community.[10] Toward this end, the PSWN program requests that a portion of the reserve spectrum be designated for pilot projects and experimental activities. Providing spectrum that would enable and allow for such exploratory efforts could have several benefits to the public safety community: showing how new technologies can improve spectrum efficiency, demonstrating how new approaches can provide greater capability and flexibility, and determining ways to tap into other more competitive equipment markets for more cost-effective solutions. The implementation and operation of pilot systems is one of the key approaches the PSWN program is taking to identify and advance "best practice" solutions for interoperability.[11]

11. Examples of pilot projects and experimental systems that could be supported with the use of some of the reserve spectrum are:

- A multi-band system demonstration, e.g., an integrated 700 MHz/800 MHz public safety pilot to encourage the development of dual-band technologies that capitalize on the close proximity of operating frequencies in these two public safety bands, or a combined 700 MHz/UHF/VHF pilot to promote the further development of automated cross-band approaches and technologies that provide baseband connectivity.[12]
- A hybrid architecture demonstration to explore those circumstances under which a mixed conventional/trunked infrastructure is most appropriate for meeting public safety requirements in a region. The PSWN program is currently analyzing conventional,

[10] *See* Third Notice at paragraph 181.

[11] *See* the *PSWN Program Strategic Plan* at page 3, which lists the program's strategic goals and objectives. Among these is the following: "Participate in pilot implementations that build on demonstrations, provide proofs of concept, and serve as catalysts for broader efforts to improve regional interoperability."

[12] The development of affordable multi-band technology is among the priority public safety spectrum issues identified by the PSWN program. *See* the program's *Spectrum Analysis Program Plan Update* at page 4.

trunked, and hybrid architectures to provide background information to public safety systems planners on the various architecture alternatives.

- A hybrid commercial/private mobile radio infrastructure demonstration to explore possible interconnection between commercial specialized mobile radio systems, such as Nextel, and privately owned and operated public safety radio systems.[13]
- A data system pilot project through which a private public safety system is built based on the architecture, and using the equipment of, an existing commercial system, such as one that provides cellular digital packet data (CDPD) services.[14] Exploring the feasibility of such a system would help determine whether the public safety community could take advantage of a broader and more competitive range of vendor products and services.

B. Comments Regarding the Regional Planning Process[15]

12. The Commission seeks comments on the appropriateness of the regional planning process for administering the reserve spectrum. The PSWN program believes, in general, the regional planning process as an approach for managing public safety spectrum has several merits—

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[13] The PSWN program has completed a study on Nextel services, including an assessment of the use of these services by public safety organizations. *See* the program's *Nextel Commercial Services Assessment* (attached) at pages IV-1 through IV-10. The analysis has shown Nextel is currently supporting a wide range of public safety-related missions and organizations. It is possible, therefore, that within a single jurisdiction or in neighboring jurisdictions both Nextel and private systems are used to support public safety communications. In this example, interconnectivity between the Nextel network and privately held networks would be needed to meet interoperability requirements within and between jurisdictions.

[14] CDPD is one of the commercial services that the PSWN program has identified as of potential interest to the public safety community. See the program's *Semiannual Cellular Digital Packet Data Services Assessment Update*, June 1998 (attached). The report includes a description of key CDPD characteristics such as availability, coverage, reliability, transmission speed, privacy and security, and cost.

[15] The PSWN program's views regarding the regional planning process are based in part on the findings from its 800 MHz study. *See, e.g.,* the program's *800 MHz Study Report* at pages 5-7 (in the Summary Report) and pages D-1 through D-30 (in Appendix D, System Planner and User Perspectives). In addition, the program is currently performing a comparative analysis of public safety spectrum management processes. This effort is providing additional insights into the relative merits and shortfalls of the regional planning approach.

- Regional perspectives – allows for addressing region-specific public safety requirements based on specific geographic (e.g., mountainous terrain), demographic (e.g., urban), and environmental (e.g., natural disasters) characteristics of the region.
- Public safety personnel perspectives – allows for the direct incorporation of inputs from members of the public safety community who are planning, implementing, operating, and maintaining public safety radio systems.
- Peer review – establishes a form of self-governance through which the regional community manages available spectrum in an open and collaborative manner through the efforts of dedicated public safety radio communications specialists.
- Coordination mechanism – provides a forum through which systems managers and other leading public safety communications officials in a region can jointly develop and implement region-wide initiatives (e.g., mutual-aid plans and shared systems).
- Ownership – provides the regional public safety community with a controlling stake in spectrum management processes and thus promotes a greater sense of responsibility for regional issues (e.g., resolution of potential interference problems).

13. However, the PSWN program believes the regional planning approach has several shortfalls that limit its utility and therefore result in complications and frustrations for the public safety community—

- Funding – no funds are currently provided to support regional planning committee operations despite the significant responsibilities these committees have as a part of the Commission's public safety spectrum management team. In effect, the Commission is levying an unfunded requirement on the community.

- Regional planning committee membership – historically membership has not adequately represented the full range of public safety personnel in a region (e.g., limited fire and EMS participation and lack of federal participation). As a result, decisions taken by the regional planning committee do not necessarily serve the broad interests of public safety personnel in the region.
- Multi-state regions – four of the existing 55 regions are multi-state (i.e., contain portions of more than one state). This has led to inter-state disputes within single regions, has complicated region-to-region coordination, and may be impeding statewide system development.
- Dispute resolution – no formal, third-party dispute resolution process exists to adjudicate disagreements within and between regions. Currently the burden is on the differing parties to resolve matter themselves. This is not always achievable. A third party, such as the National Coordination Committee (NCC) established by the Commission in the First Report & Order[16], should assume responsibility for resolving contentious disputes.
- National oversight – no regular national management and coordination of regional planning activities is currently performed. While charged with this responsibility, the Commission has limited resources to dedicate for this purpose and therefore is unable to provide comprehensive oversight with the exception of the administrative bookkeeping of regional plans and ongoing disputes. The PSWN program suggests the Commission consider assigning national oversight responsibilities to the NCC.

[16] *See* the First Report & Order at paragraph 92.

14. On balance, the PSWN program believes the regional planning approach would be a reasonable one for administering the reserve spectrum provided the Commission addresses the shortfalls listed above.

C. Comments Regarding State Licensing

15. The Transition Subcommittee of the PSWAC explored the issue of state licensing.[17] The PSWN program reminds the Commission of the subcommittee's conclusion, namely, that state licensing should not be pursued based on reservations raised during its deliberations. Among the concerns expressed to the subcommittee were:

> (1) Requirements vary dramatically from state to state, reflecting size, population, geographical and demographic differences. Blocks would have to be adjusted accordingly. (2) Radio signals cannot be confined to state boundaries and coordination with adjacent states would become much more difficult, particularly if states were free to adopt their own rules and regulations. (3) Most states do not have an organization or structure for administering a program of allocating and managing frequencies. This would be costly and they may be reluctant to assume this responsibility. This could be interpreted as a federal mandate and would require funding. (4) Maintenance of a master data base to reflect the various state blocks and their individual uses would be extremely difficult to create and manage on an individual state basis. (5) Coordination and interoperability would be threatened by disparate use of frequencies by different services and by lack of a uniform state plan. (6) In most states local government, counties and cities would probably strongly object to state control of the spectrum, particularly in states with home rule. While the FCC is not a user, in most instances the state is the largest user itself and it would be extremely difficult to maintain an objective position. (7) While the FCC presently provides the licensing service at no cost to the applicant, states would be forced to recover costs, probably through charges to users.[18]

16. In light of these findings and the relative currency of the PSWAC's work itself, the PSWN program believes the Commission should defer to the conclusion of the Transition Subcommittee and not pursue state licensing as an option.

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[17] *See* the *PSWAC Final Report, Volume II*, at pages 736-738.

[18] *See Id.* at page 737.

D. Comments Regarding Regional/Statewide System Development

17. The Commission raises a number of issues related to regional and statewide system development.[19] The PSWN program has determined that there is a trend toward developing such systems. For example, the program has collected information on a number of recent and ongoing procurements of public safety radio systems. Approximately 88 percent of the state-level procurements identified and 84 percent of the local procurements identified are for systems that will support more than one agency. The program has held six regional symposiums regarding multi-jurisdiction and multi-discipline systems development.[20] The symposiums have included several presentations regarding a number of statewide and multi-county systems.

18. Through its symposiums, the PSWN program has identified several catalysts and drivers for shared systems development.[21] These include—

- *Spectrum:* Public safety agencies require additional spectrum to alleviate congestion and interference and to support additional services such as mobile data applications. Shared systems allow for the pooling of spectrum resources and, depending on design specifics, can enable the more efficient use of spectrum.
- *Funding:* Mechanisms for funding public safety radio communications are tightening while the cost of technology continues to rise. In many cases, it is becoming prohibitively expensive for individual agencies to procure their own radio communications systems. Many public safety agencies are realizing that consolidation of

[19] *See, e.g.,* the Third Notice at paragraphs 174, 175, and 178.
[20] The program is documenting the findings from these symposiums in its *PSWN Program Symposium Compilation Report*, which is updated after each symposium. Attached is the compilation report as it stood through the program's fifth symposium. Updates of this report can be obtained through the web page at www.pswn.gov.
[21] *See* the *PSWN Program Symposium Compilation Report*, October 1998 at pages 1-3.

fiscal resources and capital assets may represent the only way new systems can be afforded.

- *Reinventing Government Initiatives*: In a time of tightening resources, many government agencies are consolidating and leveraging their efforts to achieve common objectives. The development of shared systems for public safety communications is a case in point. Public safety agencies are increasingly compelled to develop shared systems to achieve economies of scale and scope.
- *Availability of Resources*: Public safety agencies may possess or have access to differing resources that can be combined to meet each other's needs. One agency may have existing infrastructure and facilities, but lack the financial resources to build upon them. Another agency may have financial resources they can exploit, but no personnel to dedicate to the effort. Many public safety agencies are realizing synergies from combining resources to develop shared systems.
- *Duplication of Infrastructure*: Public safety agencies that can afford their own systems are recognizing that the continued duplication of physical infrastructure and single-agency systems is costly and not emblematic of good public management. For these agencies, developing shared systems is attractive because it is a smarter way to proceed.
- *Access to New Technology*: Many public safety agencies employ less than 25 persons. For these smaller agencies, it is more cost effective to rely on shared systems rather than individual endeavors. Participating in a shared system may be the only way for such agencies to obtain access to new technology and capabilities.
- *A Need to Enhance Public Safety Communications*: The implementation of shared systems enables the broad-based adoption of more technologically advanced radio

communications equipment and services, which, in turn, greatly enhance public safety operations. While technological advancement can be achieved through single-agency systems, shared systems accelerate the introduction and integration of new technologies and applications throughout the public safety community.

- *Aging Infrastructure*: Existing radio and microwave systems are becoming obsolete and high maintenance costs are making them less economically viable to sustain individually.
- *Changing Regulatory Environment*: The current regulatory environment involves narrowbanding, refarming, and spectrum reallocation, which encourage shared system development and other schemes that promote spectrum efficiency.
- *Advancing Technology*: The current technological environment can allow public safety entities to establish more feature-rich and flexible systems. New technology provides greater clarity than previous technology, supports mobile data requirements, and permits multi-agency use and wide area roaming.

19. In recognition of this trend, the PSWN program is exploring regional approaches to public safety radio systems development and the implementation of interoperability throughout the Nation. The program is performing case studies in the Pittsburgh, Washington (DC), and Salt Lake City metropolitan areas as well as in the San Diego/Imperial county region and along the Southwest border. Some of these case studies are leading to pilot systems that will allow further exploration of regional approaches.[22] In light of these activities, the PSWN program reiterates its support for designating some of the reserve spectrum for pilot projects and experimental activities.

[22] *See, e.g.*, the PSWN program's white paper *A Platform for Interoperability – Public Safety Radio Communications in San Diego and Imperial Counties*, April 1998 (attached).

20. The Commission specifically asks if regional or statewide systems would provide economies of scale and scope that would increase incentives to participate in regional or statewide systems. The PSWN program has found this to be the case.[23] In fact, leveraging economies of scale may be critical if the public safety community, as a whole, is going to meet the considerable fiscal challenge that radio system modernization and replacement represents throughout the Nation, given the amount of funding required and the limited sources of funding available to public safety.

- *Funding Requirements*: The PSWN program has estimated the overall replacement value of land mobile radio (LMR) communications equipment installed and in use in the United States by local, state, and federal agencies with public safety responsibilities is $18.3 billion.[24] This estimate assumes one-for-one replacement (i.e., no architecture changes) and does not include personnel costs, operations and maintenance costs, or real estate costs. It is therefore viewed as a lower bound on the cost of public safety radio systems modernization and replacement.
- *Funding Sources*: The PSWN program has assessed the funding resources available to the public safety community and has found them insufficient for the purposes of adequately maintaining and upgrading radio systems.[25] This confirms the NPRG's original contention in *Access America* A06 for the need to establish an alternative funding mechanism for federal, state, and local public safety officials to improve their wireless

[23] *See* the PSWN program's *Report on Funding Strategies for Public Safety Radio Communications*, October 1998 (attached) at page 6-1, which states "Sharing systems with other public safety agencies or governmental entities typically increases political and public support because this approach uses limited funding efficiently by leveraging economies of scale."

[24] *See* the PSWN program's *LMR Replacement Cost Study Report*, June 1998 (attached) at page 5.

[25] *See* the PSWN program's *Report on Funding Mechanisms for Public Safety Radio Communications*, December 1997 (attached).

communications systems.[26] To address this issue directly, the Attorney General established an interagency working group for funding in accordance with NRPG direction. This working group, which was assisted by the PSWN program in its deliberations, has forwarded its recommendations for an alternative source of funding to the Office of the Vice President for possible inclusion in future federal budgets.

Administration of Interoperability Spectrum (2.6 MHz Designated in First Report and Order)

21. The Commission seeks comments on whether it is appropriate to license the interoperability spectrum directly to the states.[27] The PSWN program repeats its reminder to the Commission of the conclusion reached by the Transition Subcommittee of the PSWAC that state licensing should not be pursued.[28]

22. On a related point, the Commission seeks comment on whether the states are an effective and appropriate "bridge" between local and federal governments to facilitate the development of interoperable systems that will service all elements of the public safety community.[29] The PSWN program believes they are. From its symposiums and other information sources, the program believes that a network of networks approach based on a layered model is emerging. Under this concept, statewide systems constitute the "layer" or "bridge" between local and federal systems and, in some instances, would provide the infrastructure for local and federal agencies to meet their communications requirements within the state.

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[26] *See* the PSWN NPRG booklet at page 9.
[27] *See* Third Notice at paragraph at 182.
[28] *See* paragraphs 15 and 16 of these Comments.
[29] *See* Third Notice at paragraph 182.

23. As far as how to administer the interoperability spectrum in the 700 MHz band, the PSWN program believes that interoperability is a national initiative and the administration of spectrum intended to support interoperability should take place at the national (vice regional) level. Therefore, because the NCC is a recognized national body, the PSWN program believes the Commission should assign this responsibility to the NCC. Further, the program believes this designation would be consistent with responsibilities already delegated by the Commission to the NCC. In particular, the Commission has tasked the NCC to—

> . . . formulate and submit for Commission review and approval an operational plan to achieve national interoperability that includes a shared or priority system among users of the interoperability spectrum for both day to day and emergency operations and, in this connection, recommendations regarding federal users' access to the interoperability spectrum.[30]

Given the PSWN program's charter to plan and foster interoperability among public safety wireless networks, the program respectfully requests membership on the NCC.

Interoperability Below 512 MHz

24. The PSWN program commends and supports the designation by the Commission of channels in existing public safety bands for interoperability as described in the Third Notice.[31] These designations are consistent with the PSWAC's recommendation to provide interoperability spectrum between 138 MHz and 512 MHz.[32]

25. However, the PSWN program reminds the Commission that the PSWAC required 2.5 MHz of interoperability spectrum be designated between 138 MHz and 512 MHz.[33] The

[30] *See* First Report & Order at paragraph 92.
[31] *See* Third Notice at paragraphs 190 and 191.
[32] *See* the *PSWAC Final Report, Volume 1* at page 21.
[33] *See Id.*

designations proposed in the Third Notice constitute but a minor fraction of what is required. The PSWN program urges the Commission to identify the remaining spectrum needed to meet the PSWAC requirements. The program also recommends the Commission consider the merits of designating a single interoperability band below 512 MHz comparable to the 2.6 MHz designated in the 700 MHz band. The PSWN program reminds the Commission that the Interoperability Subcommittee of the PSWAC recommended that such a band be designated.[34]

Global Navigation Satellite System

26. The PSWN program has not studied this issue (i.e., the potential interference with GNSS operations due to public safety transmissions in the 700 MHz band). However, the program does understand the gravity of this matter and the implications that its resolution may have for public safety use of the 700 MHz band.

27. Therefore, the program encourages the Commission to weigh carefully the information entered into the record on this matter, giving due consideration to detailed technical analyses provided by commenters experienced in these matters. The PSWN program strongly urges the Commission to not adopt measures that would preclude the use of the 700 MHz spectrum by any portions of the public safety community in any area of the country.

28. In particular, the PSWN program is concerned with the Commission inviting comment on "whether there may be a way to restrict mobile use near airports."[35] The PSWN program draws the Commission's attention to the numerous public safety agencies that operate at airports. For example, many fire departments are housed at airports and assigned to suppress and

[34] *See* the *PSWAC Final Report, Volume 2* at page 287.
[35] *See* Third Notice at paragraph 200.

fight fires and address other circumstances, such as emergency landings of aircraft, that take place at airports.

29. In its study of fire and EMS interoperability, the PSWN problem identified over 300 "special" fire departments throughout the country, many of these being airport fire departments. These agencies were among those randomly surveyed by the program to make an assessment of fire and EMS interoperability needs. Survey responses indicated that airport and other special fire departments experience significant radio communications shortfalls[36] and have significant radio communications needs[37]. Any steps taken by the Commission to limit or preclude the ability of these public safety agencies from using the 700 MHz band would frustrate the ability of these agencies to address these shortfalls and meet these needs, and would thus impede mission performance.

30. The Commission invites comment as to whether 30 meters is an appropriate separation distance for public safety mobile operations. The PSWN program believes the reasonableness of this separation distance should be determined based on whether public safety operations do in fact take place within 30 meters of a landing aircraft. During field data collection efforts performed by the PSWN program in both New York City and Houston, representatives of the program observed such operations. Based on these observations, the PSWN program believes 30 meters is appropriate.

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[36] Shortfalls indicated include: insufficient number of frequency channels, insufficient interoperability with agencies in surrounding jurisdictions, and low confidence in ability to handle task force interoperability.

[37] Communications needs indicated include: interoperability spectrum in all public safety bands, intergovernmental communications agreements for mutual response, and compatible communications equipment with neighboring agencies for operations, training, and exercises.

Year 2000 Problem

31. The PSWN program believes that there are likely a number of public safety radio systems with Year 2000 problems. The program bases this determination on the average age (approximately10 years) of the systems it has encountered through its survey and field data collection efforts. Systems of this age may have software and firmware with the Year 2000 problem. In light of this observation, the PSWN program feels it is advisable for the Commission to attempt to ascertain the extent of the problem and the degree of readiness within public safety radio communications systems.

32. However, the PSWN program does not support the data collection approaches suggested by the Commission because they would unduly couple spectrum management procedures with another issue. They would also unfairly burden organizations (i.e., frequency coordinators and regional planning committees) with collecting this information. These organizations exist to assist with spectrum management and likely lack the resources and capabilities necessary to collect the needed information. The PSWN program is concerned that the suggested approaches, if adopted, would establish a precedent for coupling other issues with spectrum management.

33. The PSWN program believes it is more appropriate for the Commission to perform a statistical survey of the community regarding this matter. The program has found through its survey experience that the community will respond in numbers sufficient to make general observations and findings provided the survey instrument used is well designed and the purpose of the survey is sufficiently compelling. The program suggests the Commission develop and administer a short (e.g., two page) survey to an appropriate sample of the community to assess Year 2000 readiness. The program also suggests the Commission use cover letters or other

introductory material from organizations and associations well known and regarded by the community to improve the likelihood of a sufficient response.

34. Irrespective of the approach used to collect this information, the PSWN program urges the Commission to take great care with safeguarding the information it collects because this information could reveal vulnerabilities in public safety communications infrastructure. These vulnerabilities, if revealed, could be exploited by hackers and others whom, for whatever reasons, might do harm to the communications systems. Such persons could block public safety communications and put life and property at risk as a result. As these considerations suggest, the Year 2000 problem can be viewed from a broader perspective, namely, as a type of information systems security problem affecting public safety radio communications systems.[38]

35. With this observation in mind, the PSWN program would like to highlight the need for the public safety community to incorporate systems security programs as an integral part of their systems development lifecycle. The PSWN program is assisting public safety agencies achieve this objective through its security activities. Of particular note is a set of recommended system security guidelines for digital LMR systems developed by the program.[39]

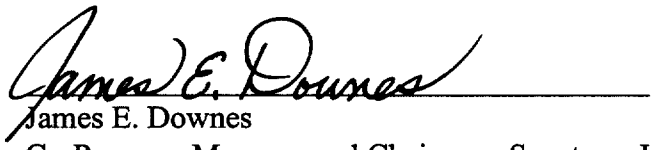
[38] The PSWN program has developed a broad definition of how the information systems security problems pertains to digital land mobile radio systems. *See* the program's *Digital Land Mobile Radio Security Problem Statement*, June 1998 (attached).

[39] *See* the PSWN program's *Digital Land Mobile Radio (DLMR) System Security Guidelines Recommendations Report*, October 1998 (attached).

Conclusion

36. For the reasons set forth above, the PSWN program respectfully requests that the Commission consider the information provided herein as it deliberates regarding this matter and adopt the measures proposed in these Comments in its rulemaking actions for the Third Notice.

Respectfully submitted,



James E. Downes
Co-Program Manager and Chairman, Spectrum Integrated Program Team
Public Safety Wireless Network (PSWN) Program

Before the
Federal Communications Commission
Washington, D.C. 20554

Certificate of Service

In the Matter of	)	
	)	
The Development of Operational, Technical,	)	
and Spectrum Requirements for Meeting Federal,	)	WT Docket No. 96-86
State, and Local Public Safety Agency Communication	)	
Requirements Through the Year 2010.	)	

I, Joseph F. Sifer, Senior Associate, 8283 Greensboro Drive, McLean, Virginia, 22102-3838, hereby certify that on January 19, 1999, I caused to be served, by first-class mail, postage prepaid (or by hand where noted) copies of the Public Safety Wireless Network program's Comments *In the Matter of The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010* (Third Notice of Proposed Rulemaking), WT Docket No. 96-86, FCC 98-191 (rel. September 28, 1998), the original of which is filed herewith and upon the parties identified on the attached service list.

DATED at Fair Oaks, Virginia this 19th day of January, 1999.

Joseph F. Sifer

In the Matter of
The Development of Operational, Technical
and Spectrum Requirements for Meeting Federal,
State and Local Public Safety Agency Communication
Requirements Through the Year 2010,
WT Docket No. 96-86
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